

Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80



Product: 3043816 - Wafix PP Bend 88° GY 32 S/SP
 Unit: 1 piece
 Manufacturer: Wavin - PL -Buk - Extra products

LCA standard: EN15804+A2 (2019)
 Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off
 Externally verified: Yes
 Issue date: 08-06-2023
 End of validity: 08-06-2028
 Verifier: Martijn van Hövell - SGS Search



Wafix PP is a versatile, uncomplicated solution for your indoor drainage. You can easily install the impact-resistant pipes even in frost. Their excellent chemical resistance makes them ideal for cast-in applications.

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
 A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
 B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
 C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

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Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.50E-2	4.28E-4	1.45E-4	5.56E-2	7.48E-4	8.33E-2	3.52E-4	-4.46E-2	9.54E-2
GWP-f	kg CO2 eq	1.04E-1	4.28E-4	1.46E-4	1.05E-1	7.48E-4	3.10E-2	3.52E-4	-5.07E-2	8.60E-2
GWP-b	kg CO2 eq	-4.91E-2	2.60E-7	-1.54E-6	-4.91E-2	4.54E-7	5.23E-2	3.05E-7	6.14E-3	9.40E-3
GWP-luluc	kg CO2 eq	1.13E-4	1.51E-7	1.49E-7	1.14E-4	2.65E-7	4.62E-6	6.18E-9	-7.77E-5	4.09E-5
ODP	kg CFC11 eq	6.29E-9	9.86E-11	8.26E-12	6.39E-9	1.72E-10	7.33E-10	8.85E-12	-3.63E-9	3.68E-9
AP	mol H+ eq	4.61E-4	2.44E-6	1.47E-6	4.65E-4	4.26E-6	3.03E-5	2.12E-7	-1.81E-4	3.19E-4
EP-fw	kg P eq	2.74E-6	3.52E-9	8.24E-9	2.75E-6	6.15E-9	1.37E-7	2.81E-10	-1.35E-6	1.55E-6
EP-m	kg N eq	8.72E-5	8.72E-7	1.55E-7	8.82E-5	1.52E-6	9.45E-6	1.36E-7	-3.85E-5	6.08E-5
EP-T	mol N eq	9.74E-4	9.61E-6	1.85E-6	9.85E-4	1.68E-5	1.04E-4	8.58E-7	-4.39E-4	6.68E-4
POCP	kg NMVOC eq	3.79E-4	2.75E-6	6.28E-7	3.83E-4	4.80E-6	3.21E-5	3.22E-7	-1.69E-4	2.51E-4
ADP-mm	kg Sb eq	4.66E-6	1.11E-8	1.97E-8	4.69E-6	1.93E-8	1.16E-7	2.15E-10	-4.06E-7	4.42E-6
ADP-f	MJ	2.99E+0	6.57E-3	1.36E-3	3.00E+0	1.15E-2	8.59E-2	6.47E-4	-1.35E+0	1.75E+0
WDP	m3 depriv.	6.52E-2	2.02E-5	5.22E-5	6.53E-2	3.52E-5	1.53E-3	3.92E-6	-3.20E-2	3.49E-2
PM	disease inc.	5.00E-9	3.86E-11	9.08E-12	5.05E-9	6.75E-11	4.78E-10	4.45E-12	-2.40E-9	3.20E-9
IR	kBq U-235 eq	3.09E-3	2.87E-5	1.02E-6	3.12E-3	5.02E-5	2.77E-4	2.99E-6	-1.30E-3	2.15E-3
ETP-fw	CTUe	2.03E+0	5.33E-3	1.21E-2	2.05E+0	9.32E-3	1.04E-1	5.41E-4	-8.88E-1	1.28E+0
HTP-c	CTUh	7.07E-11	1.90E-13	6.17E-13	7.15E-11	3.32E-13	1.32E-11	1.63E-14	-2.82E-11	5.69E-11
HTP-nc	CTUh	1.27E-9	6.36E-12	1.57E-11	1.29E-9	1.11E-11	1.52E-10	3.51E-13	-3.20E-10	1.14E-9
SQP	Pt	4.61E+0	5.62E-3	2.24E-3	4.62E+0	9.82E-3	6.74E-2	1.66E-3	-4.70E+0	3.46E-3
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.93E-1	9.42E-5	2.40E-2	9.18E-1	1.65E-4	4.03E-3	2.47E-5	-7.52E-1	1.70E-1
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.93E-1	9.42E-5	2.40E-2	9.18E-1	1.65E-4	4.03E-3	2.47E-5	-7.52E-1	1.70E-1
PENRE	MJ	3.21E+0	6.97E-3	1.44E-3	3.22E+0	1.22E-2	9.15E-2	6.86E-4	-1.46E+0	1.86E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.21E+0	6.97E-3	1.44E-3	3.22E+0	1.22E-2	9.15E-2	6.86E-4	-1.46E+0	1.86E+0
PET	MJ	4.10E+0	7.07E-3	2.55E-2	4.14E+0	1.23E-2	9.55E-2	7.11E-4	-2.21E+0	2.03E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.25E-3	7.43E-7	1.46E-6	1.26E-3	1.30E-6	4.85E-5	7.94E-7	-6.12E-4	6.95E-4

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.20E-6	1.68E-8	2.73E-13	1.22E-6	2.93E-8	1.53E-7	7.85E-10	-8.13E-7	5.91E-7
NHWD	kg	9.85E-3	4.07E-4	1.05E-6	1.03E-2	7.11E-4	4.57E-3	2.84E-3	-3.50E-3	1.49E-2
RWD	kg	3.23E-6	4.47E-8	1.10E-13	3.27E-6	7.80E-8	3.60E-7	4.21E-9	-1.30E-6	2.42E-6
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0



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